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XIV.—*Further Notes on the Birds of Gazaland.*

By C. F. M. SWYNNERTON, F.L.S., C.M.B.O.U.

[Continued from p. 107.]

(Plate VIII.)

153. UPUPA AFRICANA. South-African Hoopoe.

Singuni: "Inzimpupu." Chindao: "Chigúbubu." (Both names in imitation of the bird's note.)

Rh., P. I have seen little of this Hoopoe during the past year, probably owing to my absence in September, when it is always most plentiful near Chirinda. However, on the 13th of August I noticed a pair on an open path in the Jihu and heard others calling in the grass-jungle; on the 15th, 16th, and 21st of the same month I noted birds in different localities near Chirinda; on September the 8th in the Inyamadzi Valley, and a few days later in the coffee-plantation at Maruma. Near Arucate I saw this species twice, on December 5th and 6th.

The stomach of my specimen contained weevils and other beetles. The bill was black and the digits and tarsi grey.

154. IRRISOR ERYTHORHYNCHUS (Lath.).

Irrisor erythrorhynchus Reichenow, Vög. Afr. ii. p. 338.

Singuni: "Ihlebabafazi."

Rh., P. This handsome but unpleasantly noisy bird is not uncommon throughout the Jihu, and I obtained a

specimen near Chirinda on March 14th, 1907. Odendaal has since sent me a male, dated August 25th, which measured in the flesh 16·2 inches, and an immature female, dated August 20th, which measured 13·6 inches, both obtained in the neighbourhood of Chirinda. In the former the irides were grey-brown, in the latter deep vandyk-brown. In both the feathers of the throat had become a reddish brown, preparatory doubtless to moulting, and in my specimen of March 14th the throat-feathers were already slightly tipped with the same colour. By their broader white quill-spots and longer tails my Gazaland specimens are certainly referable to the present species and not to the more southern form, *Irrisor viridis*.

In the lowlands I noted parties at the Umtefu, near Chibabava (where I obtained a specimen on June 1st), and twice at Aruate.

155. RHINOPOMASTUS CYANOMELAS. Scimitar-bill.

Rh., P. I found this bird during the past year at various points in the upper and lower Jihu, at Maruma and in the Chikamboge Valley, where I obtained a female with advanced ovaries on September 17th in short dense bush. In the low veld I met with the bird between Gwaragwara and Inyamita at the beginning of January. It is usually found in pairs, which move with a soft gliding flight from tree to tree and search the trunks and twigs for insects, often turning head downwards while so engaged, and uttering at times a harsh but low "ka-ka"! A wasp and beetles, and in two cases beetles only, constituted the contents of the stomachs examined.

Two females measured 12·1 and 11·5 inches respectively in the flesh; the irides were deep sepia-coloured.

A male which I shot on the Makabusi River in Mashonaland on August 21st, 1898, seems to be *Rhinopomastus schalowi* Neum. (*R. cyanomelas schalowi* Reichenow, Vög. Afr. ii. p. 347). No. 998, my female of the Chikamboge Valley, appears to be intermediate between the two forms.

156. *CYPSELUS CAFFER*. African White-rumped Swift.

Rh., P. On September 25th large companies of a small black Swift, which I have little doubt was referable to this species, were dashing madly with shrill cries about the face of the huge rugged cliffs of the Chimanimani Mountains, and frequently visiting the overhanging ledges of rock, and especially a cave in the form of a *máchicoulis*, where they were doubtless breeding. I also saw these Swifts in large numbers on the Nyahode River earlier in the same month, while a considerable party passed over Chirinda on November 3rd. In the lowlands I found them numerous during the first half of January in patches of Palmyra palm country, between Chimbuya and the Umtefu, and at one or two points between this river and the Zinyumbo Hills.

157. *CYPSELUS EQUATORIALIS* v. Müll.

Apus equatorialis Reichenow, Vög. Afr. ii. p. 379.

P. This is the Swift referred to in my last paper ('Ibis,' 1907, p. 280) as *Cypselus* sp. inc. It agrees very well with specimens in the British Museum. It has not previously been recorded south of Nyasaland.

158. *CAPRIMULGUS FERVIDUS*. Fiery-necked Nightjar.
(*C. rufigena* of my previous paper, 'Ibis,' 1907, p. 280.)

Chindao: "Muswerahope." Singuni: "Isavolo." (Both names are applied to Nightjars in general.)

Rh., P. In November 1906 I found two eggs of this Nightjar lying in a slight depression of the ground in a fine clump of *Acacia caffra* beside my camp on the Kurumadzi. They were very pale salmon-pink, freckled and spotted all over with a slightly darker shade of purplish pink. The sitting bird allowed a very near approach before rising, but, once flushed, would sometimes remain away from the nest for hours together. About Chirinda pairs of this Nightjar sometimes regularly frequent such isolated forest-remnants, consisting of a few trees each, as still hold their own on the grassy slopes. Both there and on the outskirts of the forest itself they frequently settle lengthwise on the larger branches of such reddish-barked trees as *Bersama*

niassæ, where their coloration renders them very difficult to detect. Two nestlings, taken near Chirinda, were brought to me on October 20th, but I only succeeded in keeping them alive for two weeks, feeding them chiefly on Melolonthid larvæ. They were grave stolid little fellows and remarkably pretty. Their cry when hungry strongly resembled that of the adult of *C. trimaculatus*, but was of course far weaker. The bill was deep sepia-coloured, the irides deep rich umber, and the feet light purplish grey, all these parts being lighter than in the adult bird. The nest, which I inspected, was again a mere unlined hollow in the ground. A stomach of this species contained beetles and spiders. A male measured 10·3 inches in the flesh and two females 9·35 and 9·55.

159. CAPRIMULGUS TRIMACULATUS. Freckled Nightjar.

Rh. I have come across this Nightjar fairly frequently during the past year in the neighbourhood of Chirinda, where it may frequently be found settling at dusk in the centre of the road, or frequenting short cattle-pasture for the sake of the coprophilous beetles attracted thereto. It is readily distinguished by its large size and its peculiar call, a very loud liquid "kwa-kweu" (with the stress on the "e"), sounding at a distance like "kyoo-kyoo!" The birds called nightly on the roofs of my buildings throughout August 1906, and are evidently somewhat exclusive, as during that time none of the two smaller species of Nightjars which usually frequent the homestead were heard to call within two or three hundred yards.

The stomachs examined have contained beetles, large and small, chiefly Melolonthidæ and Scarabs (including *Diastelopalpus*) and in one case locusts and moth-ova as well.

In the upper mandible the tip is black, the nostrils blackish, and the remainder ashy grey. In the lower the extreme tip is also black and the rest light purplish grey. The feet are dusky grey with a tinge of purple, the iris dark umber, the eyelids very pale ochreous brown, and the claws dusky, the pectination being paler and tinged with purple. Two males measured 10·75 inches each in the flesh.

160. CAPRIMULGUS FOSSII. Mozambique Nightjar.

Rh., P. The call either of this Nightjar or of *C. fervidus* (I have been unable to ascertain which utters it) is rather well rendered by the natives as "Chidekúruru! Mukadzi warorgwa!" (Grandpapa! my wife is paid for!), and I constantly heard this "Chidekúruru" note about Melsetter in September.

The stomach of a male which I secured on the 8th of January, flying and settling with its mate amongst some Kafir huts on the Umtefu, contained nine small coprophilous beetles and a Scutellarid bug. Another contained a large number of *Onthophagus gazella*.

The bill is usually light reddish brown with a black or blackish tip, the palate and gape flesh-pink. The eyelids are whitish and the irides very deep umber-brown. 9·65, 9·75, and 10 inches represent the length in the flesh of three males measured. The wing-measurement of the five specimens in my collection varies from 5·9 to 6·7 inches, and that of the tail from 4·3 to 3·5. This is evidently a very variable species.

161. COSMETORNIS VEXILLARIUS. Standard-wing Nightjar.

Rh., P. The usual Nightjar-names, "Muswerahope" and "Isavolo," are commonly applied by the natives to this bird, though, in Chindao, a special name, "Mwere," is sometimes used for the male in breeding-plumage. A female, obtained by Odendaal near Chirinda on January 16th of this year, measured 10·3 inches in the flesh.

162. CORACIAS GARRULUS. European Roller.

Singuni: "Iveve" (applied to all Rollers, including *Eurystomus afer*).

P. I first noted these Rollers on December 6th in the open bush near Gezanye, where quite a number were settling high in the trees and making flights after their prey; I noticed one catch a large insect very cleverly on the wing. During the first few days of January I found them quite common, singly or in pairs, throughout the lowlands from Malata to

the Zinyumbo Hills. They had evidently only just arrived, as I had seen none, except at Gezanye, on passing though the same country in December.

The iris in a young female was umber, in an adult bird hazel; the feet in both cases were light citron-yellow. The two stomachs examined contained respectively beetles and a quantity of the ordinary migratory locusts in the larval stage.

163. *CORACIAS CAUDATUS*. Moselikatze's Roller.

Rh., P. I came across this Roller on several occasions during my recent journey across the low veld, noting it in December at Inyajena and other points between the Umtefu and Chibabava and at Muchukwana. On the 3rd and 4th of January I met with it between Gwaragwara and Inyamita and between Inyandhlovu and the Idunda River. It is a wary bird, perching on the tops of trees, and flying off at once when approached. Two small crabs, two delicate green Locustid grasshoppers, migratory locusts, several weevils, and a large spined *Inyalipsis* constituted the contents of two stomachs examined.

164. *CORACIAS MOSAMBICUS*. Purple Roller.

Rh., P. I noticed this Roller in December on the Buzi between the Idunda and Inyandhlovu, and at Boka's, and again in January in the first-named locality. The iris may be brown, dull chestnut, or hazel, varying with the age of the bird. The feet are citron-coloured. An adult measured 13·8 inches in the flesh.

165. *EURYSTOMUS AFER*. Cinnamon Roller.

Rh., P. The Cinnamon Roller reached Chirinda in 1906 on the 12th or 13th of October, and thenceforth frequented especially the higher branches of some huge African mahoganies (*Khaya senegalensis*, var.). In the lowlands I came across single individuals (in all probability the mates of sitting females) during December 1906 and January, especially at Boka, Muchukwana, and, at intervals, between Inyajena and Zinyumbo, particularly in the high trees bordering the rivers. In 1907 these birds had again already

reached Chirinda by October 15th, a female recently received from Odendaal bearing that date. It measured 11·3 inches in the flesh.

166. *MEROPS APIASTER*. European Bee-eater.

Chindao: "Igwiru-gwiru" or "Ikweru-kweru" (applied to all Bee-eaters in imitation of the note of the present species).

Rh., P. The first flock of European Bee-eaters to arrive in 1906, consisting of fifteen individuals, reached Chirinda on the afternoon of November 15th, passing on southwards with their usual ringing chorus. After that date small parties of about twenty birds occurred almost daily for a short period. In that year they had left the neighbourhood of Chirinda at the end of March, the last which I saw being a flock flying rapidly over at a considerable height and in a north-westerly direction on April 2nd. In 1907 they remained longer. Parties of fifty had been frequenting my plantations of Ceara rubber (*Manihot glaziovii*) near Chirinda daily for some weeks, and feeding on the bees which had been attracted in great numbers by the *Manihot* flowers; they were still present on the 20th of April when I left for England. In 1898 they had already reached Salisbury in Mashonaland on October 16th, two immature specimens in my collection bearing that date.

Two stomachs examined contained respectively eighteen bees and three other hymenoptera, nineteen bees and a Cetoniid; in two other cases beetles only were found; in two, bees and a skipper butterfly. The irides in my specimens were carmine and the feet grey. Two males measured in the flesh 11 inches each, and two females 10·9 and 10·5 inches.

167. *MEROPS PERSICUS*. Blue-cheeked Bee-eater.

P. I found great numbers of these birds in the neighbourhood of some large pools near Chibabava, which I visited on the 2nd and 12th of December, 1906. They were perched conspicuously on the topmost and outer branches of the trees and bushes on the banks, or hawking over the swamp for

dragon-flies and other insects, which they were particularly dexterous in capturing. They would sometimes suddenly drop or rise vertically six inches or a foot when in full career in order to seize their prey. Yet I saw one strike deliberately at a *Belenois* (of which the rapid erratic flight must be very puzzling to a bird) and miss it. I have noticed the same difficulty on the part of *Dicrurus afer*. The call of this Bee-eater is frequently uttered, and is much like that of *Merops apiaster*.

One stomach examined contained sixteen bees, three large dragon-flies, and an *Acraea* butterfly; another a dragon-fly only. Two males measured respectively 10·5 and 10·6 inches in the flesh; the irides were carmine and the tarsi light golden brown, the toes darker and somewhat blackish.

168. *MEROPS NUBICOIDES*. Carmine-throated Bee-eater.

P. I have never noticed this striking species in the Gazaland highlands, but on the evening of December 4th (1906) I watched a pair hawking round some drinking-pools at Arucate.

169. *DICROCERCUS HIRUNDINEUS*. Swallow-tailed Bee-eater.

P. On August 4th I secured a male of this species. It was perched on the topmost twig of a *Rauwolfia* in the grass-jungle, whence it had just made a successful flight after an insect, turning a complete somersault in securing it. It measured nine inches in the flesh; the feet were dull grey, and the irides carmine; while the stomach contained large diptera and beetles.

170. *MELITTOPHAGUS MERIDIONALIS*. Little Bee-eater.

Rh., P. I have usually noted this species in pairs, even throughout the winter (*e.g.*, near Chirinda in July and August 1906). The two birds usually perch within a few feet of one another on the same bush or stake in the grass-jungle, and thence make graceful flights, short or occasionally sustained, after passing insects. When the bird is at rest the tail is held vertically downwards and as

a rule kept in constant motion, vibrating slightly but rapidly backwards and forwards. In the lowlands I noted this Bee-eater on January 3rd, 1907, between Gwaragwara and Inyamita. The stomach of a specimen which I obtained in Mashonaland in 1899 contained two small wasps, two flying-ants, one fly, and beetles (one *Onthophagus parumpunctatus*, one *O. gemmeus*, and one *Sphaenoptera reticulata*); others, examined since, have contained flies and other small insects. One of my specimens (Odendaal's No. 351) has a trace of the blue forehead which distinguishes *M. cyanostictus* from the present species. *M. cyanostictus* has already been recorded from Beira, where it was obtained in two localities by Cavendish ('Ibis,' 1900, p. 115).

171. MELITTOPIHAGUS BULLOCKOIDES. White-fronted Bee-eater.

P. These Bee-eaters were particularly common in December and January, not only along the river, but at isolated pools and even in the bush, between Chibabava and Muchukwana. During my stay at Chibabava numbers of these birds, usually in scattered parties of five or six, which occasionally united into flocks of as many as forty or fifty individuals, were to be seen daily insect-hunting or amusing themselves amongst the branches of the large *Trichilias* and other shady trees, or in the denser scrub which clothed the lower bank of the river. Thence single birds would constantly take flights low over the water, sometimes to the very centre of the river, which was here extremely wide, and more often than not dip into the water, taking something from it in their bill before returning to their station. On November 29th, in little more than five minutes I counted twenty-six such dips into the water on the part of the members of a party of about twenty, and during the whole time that I was watching, perhaps a quarter of an hour, I saw the birds fly out six times after butterflies of some size, including Pierines, probably *Catopsilia florella* and *Belenois severina* or *B. mesentina*, as these seemed to be the only white butterflies which were flying over the water. In these six attempts

the butterfly was caught outright only twice ; on two other occasions, after much dodging, it got away and the bird returned to its perch ; while on two remaining occasions, on one bird missing the insect, several others promptly flew out (the first time seven or eight, and the second time three) to join in the sport, the butterfly being eventually captured each time after some little darting about and confusion. Besides this, on quite a number of occasions, I saw a bird aim at or catch what I took to be a *Lycænid*, the others going out to its aid in the same manner three or four times. Presumably what they dipped at in the water were floating insects. Frequently they would fly out to their object, dart backwards and forwards over it within a radius of two or three feet, and then return without having struck ; what they had detected from the shore had evidently proved on closer inspection to be something inedible. Towards evening they would become very noisy, flying in small parties amongst the low trees and scrub at the water's edge and the larger trees above, crossing and re-crossing the river, and all the time keeping up a chorus of coaxing notes—"gweye-gweye gwehehe!" Evidently, like the *Touracos*, they become excited as bedtime draws near, and even when it is practically dark an individual bird will frequently dart out over the stream and return with its captive in its bill. Another common note was a harsh but not very loud "kara-kara, ka-kara-kara," &c., and once or twice the birds uttered a peculiar slow "ke-iririri-riri-ro!" They were very tame, my main difficulty being to get far enough away for a shot, but when finally they saw one of their number fall to my gun they flew round and round and eventually vanished with shrill cries of "gwea-gwea!" Two males measured 8·8 and 9·85 inches respectively, and four stomachs examined contained beetles (including a *Cetoniid*), *hymenoptera*, a butterfly (*Acræa*), and, twice, a *Cicada*. The irides were very dark warm brown and the feet dark leaden or blackish grey. A bird in quite immature plumage, shot on Dec. 15th, did not differ from the adults in these respects.

172. *CERYLE RUDIS*. Pied Kingfisher.

Rh., P. I noticed these birds fishing in pairs between Malata and the mouth of the Buzi and in the sea at Beira, in December 1906.

173. *CERYLE MAXIMA*. Giant Kingfisher.

P. This bird appears to be distinctly rare in our portion of Gazaland, though I understand that it is far more frequently met with towards the coast. On September 8th, 1906, I saw an individual on the Inyamadzi. It was very unapproachable, and flew wildly up the river when followed, settling here and there on the high reeds or trees, and uttering in flight a loud tinny "gweh-gweh-gweh!"

174. *ALCEDO SEMITORQUATA*. Half-collared Kingfisher.

(Chindao: "Chinyurahowe.")

P. I watched one of these birds on the Kurumadzi on August 1st, 1906, and had noted them previously on the Zona and Chinyika Rivers.

175. *ISPIDINA NATALENSIS*. Natal Kingfisher.

Rh., P. On two or three occasions during 1906 one of these little Kingfishers visited my orchard, which is some distance from the nearest stream. It took up its station on the outer twigs of some large mulberry-trees, and thence made constant flights, occasionally to the ground, after insects. On November 28th, during my absence in the lowlands, Odendaal found a pair occupying a hole close to a clump of bananas, and secured the male on the nest. The three eggs measured 19 by 15·5, 18 by 16, and 17·5 by 15 mm. respectively. A male in my collection measured 4·8 inches in the flesh, and a female 5·1 inches. The bill and feet of the former were coral-red; the bill slightly dusky on the culmen, especially at its base. A stomach examined contained two larvæ, a grasshopper, and beetles, another a quantity of grasshoppers.

176. *CORYTHORNIS CYANOSTIGMA*. Malachite Kingfisher.

Rh. I have a note to the effect that the Mashona name of this Kingfisher is "Chishashero." In an immature

female obtained near Chirinda on April 1st the front of the tarsi was dusky brown, but the back was orange-pink, as were also the soles. The irides were a darker brown than in the adult bird.

177. HALCYON SWAINSONI. Grey-headed Kingfisher.

P. During my journey across the low veld in December 1906, and the succeeding January, I constantly came across this Kingfisher in the open woodlands, nearly always perched solitary on some prominent but low branch of a tree, on the look-out for passing insects. Localities where it appeared to be especially numerous were (in December) between Chibabava and Muchukwana; and in January, near Muchukwana, at the Umtefu, and between the Muzala and Inyajena. The stomach of one of my specimens contained two large crickets and other insect débris. The bill of a non-breeding male was of a rather dusky red, the front of the tarsus and upper surface of the toes dusky red, while the back of the tarsus and the soles were bright coral-red. In a second specimen, apparently a female, the bill was dull reddish brown with the point blackish and the extreme tip amber, while the feet were of the same colour or perhaps slightly more pink. The former measured 8·1 inches in the flesh.

178. HALCYON ORIENTALIS. Peters's Kingfisher.

Chindao : "Idedérigwa" (applied to all Bush-Kingfishers).

Rh., P. During 1906 I noted this, our common Bush-Kingfisher, on the Inyamadzi and Lusitu Rivers, on both occasions in September, as well as about Chirinda. I also found it at Chibabava in December, alighting on projecting branches with a loud Woodpecker-like cackle (sometimes after a flight down the river) or frequenting the large shady Trichilias in the neighbourhood. Among beetles these birds appear to have a special partiality for Cetoniidæ, and in one bird's stomach I found an *Amphisbæna*. They are also readily trapped by means of Melolonthid larvæ. In the breeding male the bill is bright scarlet, with the tip, and sometimes the base, dusky; the feet, too, are scarlet, with

the soles of a more delicate coral-red. In non-breeding males the scarlet of the bill may be darker, and the upper surface of the tarsus and toes dusky crimson, or brown-madder. This applies, too, to the feet of the female, the bill of which is dusky carmine, completely dusky along the commissure, at the base, along the ridge of the culmen, and at the tip. Thirteen of these Kingfishers, measured in the flesh, averaged 9.2 inches, with a range of from 9 to 9.4. The sexes do not appear to vary in this respect.

179. *COLIUS STRIATUS MINOR*. Eastern Speckled Mouse-Bird.

Colius striatus minor Reich. Vög. Afr. ii. p. 203.

Colius striatus Swynnerton, Ibis, 1907, p. 285.

Singuni: "Indhlazi."

Rh., P. I found these birds in considerable numbers during September 1906 in the Chikamboge Valley, attracted by the berries of three species of *Lippia* with which the valley abounds. I have shot a breeding male as late as May. In 1906 they attacked my peach-crop in August, when the fruits were still quite small and hard, usually in a flock of from twenty to thirty individuals, and did great damage, leaving quantities of bare stones attached to the twigs. Fortunately they have the habit when alarmed of congregating together in small groups, so that several can be brought down at one shot. Shooting them wholesale, however, does not frighten them in the least; we killed upwards of fifty in comparatively few days, but the numbers in the flock always remained fairly constant, fresh birds appearing from the veld to fill the gaps. On August 17th we reduced the flock to three birds, but within three days it had again increased to thirty-five. I examined the stomach-contents of all that were killed and only in a single instance did I find anything but fruit, wild or cultivated, the exception being a larva which had doubtless been swallowed accidentally in the fruit. I have also found green leaves in the stomach. In an immature male the upper mandible was pale greenish, its point, and the whole of the lower, brown. It measured

8·5 inches in the flesh. Thirty-one adults, measured in the flesh, gave an average of 12·86 inches, the largest and smallest males measuring respectively 14·7 and 10·75 inches, and the largest and smallest females 14 and 11 inches. The blackish throat serves fairly well to distinguish this bird from the typical Southern form; in wing-measurement the difference is sometimes not great, some of my specimens measuring as much as 3·6 and 3·7 inches, while several of the longer tails measure from 8·5 to 9·35 inches.

180. *COLIUS ERYTHROMELON*. Red-faced Mouse-Bird.

Rh. I have lately received a specimen of this *Coly* from Odendaal, shot by him in the neighbourhood of Chirinda on August 28th. It measured 14·5 inches in flesh; its bill was "crimson tipped with black, its feet were rose-red, and its irides grey." Its stomach contained the pulp of oranges.

181. *BUCORAX CAFER*. Ground Hornbill.

Singuni: "Isingizi." Chindao: "Iriti."

Rh., P. Four of these birds visited my cultivated fields at frequent intervals during 1906, doing good service amongst the grasshoppers and cut-worms. They are the most useful species that we possess and deserve protection more than the Secretary-Bird, which, from the greater activity of its movements, is a more dangerous enemy to young game than is the present bird.

Odendaal, writing on December 20th, 1907, tells me that he has found a nest in Chirinda containing a nearly-fledged young bird.

This species extends to the coast on the east (I saw a party of four in the open woods near Beira) and to the Umvumvumu to the north. It is one of the first birds to commence calling in the morning, long before sunrise.

182. *BYCANISTES BUCCINATOR*. Trumpeter Hornbill.

Chindao: "Ikakamira" or, sometimes, "Ishérera-kuri" (forager-afar). These names are also applied to *B. cristatus*.

Rh., P. During the last few days of December, 1906,

while I was absent in the lowlands, Odendaal sawed down a large *Maba* in Chirinda and took from it uninjured four unfledged young of this species. One of them had evidently been hatched long after the others, being half their size and very backward in appearance. The nest was about twenty-five feet from the ground in the hollow trunk (there nearly four feet in diameter) and was entered by a slit so narrow that it was difficult to believe the female could squeeze in. This had been mudded up with a mixture of the red "Jihu" earth of the forest and the bird's own droppings, containing seeds of figs, &c. The barricade had already been broken down by the birds themselves when the nest was discovered, but I myself saw what remained of it on my return. Another slit, higher in the tree, had evidently been also used as a nest the year before, and the brick-red colour of its edges still bore evidence of its having been mudded up. The young birds thrive well on bananas and papaws, and for sheer voracity I think that they easily bore off the palm from all other bird-families that I have ever reared. Their cries, when anyone entered the room, and particularly when they were receiving food, were truly appalling, resembling at a short distance nothing so much as the squealing of a pig in agony. As they put on feathers and grew stronger, they would hustle each other, and worry each other with their bills (the weakling generally ending by receiving the unwelcome though harmless attention of all the others at once), while, in their eagerness for the food, they would jump up on to the side of their basket or on to my hand and shoulder, all the time uttering deafening cries. Like my adult Zambesi Trumpeter, they would take the food with the point of the bill and toss it into the gullet by one or more backward jerks of the head. They are evidently a long time in arriving at maturity, for the three elder nestlings, judging by the subsequent slow progress of the fourth, must have already been several weeks old when taken, though still callow. They subsequently put on feathers very slowly, being anything but respectable at the time of their death after three months'

captivity, while the casque had even then appeared only to a slight extent. Evidently the eggs are laid at intervals; one of the three older birds was itself much more advanced than its companions and was already quite at home amongst the perches in the aviary in the middle of February, while the other two, even in March, could not rise unassisted even to the lowest, though they made ludicrous attempts to do so. On the ground they are clumsy, sprawling creatures, usually resting flat on the tarsi with the tail held up perpendicularly. Odendaal drew my attention to the curiously raised appearance of the skin of the back of the youngest, which might be compared to an extensive low blister. A trace of this condition was still apparent in the larger birds, and was more so, he informed me, when he first took them. It disappeared rapidly with their growth.

I have noted this bird in the Inyamadzi Valley and, on September 17th, found several feeding on the ripe "Mutowe-towe" figs in the Inyamkuwha forest-patch in the Chikamboge Valley. Dierking informed me that a solitary individual of this species had frequented his orchard near Maruma, during August and September, for about a month, being there daily and allowing an approach to within ten or fifteen yards. It fed chiefly on his papaws—with his full permission! I noted quite a number about the Maruma forest-patch in the same month. In the low veld I found these Hornbills on the Mwangezi River, and in dense bush near Boka and Chibabava in December and January. In the adult bird the bill, casque, and feet are dark grey, the bare skin round the eye is rosy carmine, and the irides are dark red. In the young bird the bill is dark leaden grey, the feet are blackish, and the irides dark brown. A stomach contained a large metallic beetle and a number of smallish fruits. This Hornbill does not appear to associate with *B. cristatus*, unless when attracted to the same tree by a ripe crop of fruit, and I only once found it making the pilgrimage to the Inyamadzi and back, which was indulged in daily by the other species. This was on August 29th, when two parties, one of nine, the other of forty-eight

birds, passed over on their way thither about an hour before sunset. All were *B. buccinator*, at once distinguishable by their conspicuous white abdomens, and they uttered one of their plaintive calls continually as they flew.

183. BYCANISTES CRISTATUS (Rüpp.). Zambesi Trumpeter.

Rh. On November 3rd, 1906, I slightly winged a female of this species, which subsequently lived for some time in my aviary. When captured she bit savagely and indulged in the most ludicrous braying, which was kept up for quite long at a time and answered by her friends in the trees. It was evident that she had recently been sitting, as she had moulted and was only just getting a new crop of feathers. On the ground she was very clumsy, usually sitting flat on the tarsi and even moving about in that position with her tail trailing along the ground. She soon became fairly tame, but was an exceedingly clumsy feeder. When a large fig was thrown down she would pick it up with the point of her bill and keep pressing and turning it, though never exerting much force, until it was fairly soft. At last it would split and be finally formed into a long mass, which she would throw up into the air, catching it in the trough of her lower bill and trying to manœuvre it down her throat by throwing her head first to one side and then to the other. The fig would either slip down a little at each jerk or, as often as not, fall out altogether, when she would commence again. At last she would succeed in throwing it right back into her throat and after a little trouble and much jerking of the head get it down. This would account for the number of bruised and broken figs and other fruit that are found under the trees in the forest, for the Hornbills evidently drop far more than they eat. She was very conservative, refusing peaches and other cultivated fruits. For a few days before she died she sat on the ground in a corner with her bill resting against the wall or with her head thrown backwards between the shoulders on to her back and her bill pointing upwards, remaining motionless for hours in that strange position; the weight of the great casque and bill evidently told on her as she became

weak. I frequently come across these Hornbills in Chirinda in the mornings up till shortly after sunrise, before they scatter to their feeding-grounds, lolling on the branches, usually with their breasts flat on their feet and their great heads and necks leaning forward horizontally or downwards as they bask in the early morning rays. Occasionally they move lower or higher along the branches with ungainly sidelong hops, sometimes turning suddenly right round in hopping. Specimens are most easily obtainable in June, when the main crop of Chisipi figs ripens. During August and the early part of September these birds used to leave the forest every evening before sunset and fly over to the Inyamadzi, dropping to roost into the dense-foliaged trees that grow out amongst the inaccessible crags of the upper part of the gorge. Probably this was due to their being molested by wild animals in Chirinda. They go across in large parties of forty or more, the individuals flying singly or from two to five together, but the party as a whole keeping more or less in a straight line and preserving their places moderately well throughout the journey. Although they usually travel at a height of about three hundred feet, the noisy sawing strokes of their wings can be heard quite plainly; these are usually repeated several times and then followed by a few yards of motionless gliding flight. The berries of a large *Maba* and of a fine *Strychnos*, common in Chirinda, are amongst the favourite food of these Hornbills. They are very easily roused at night and fly off at once even if anyone passes with a lantern a hundred and fifty feet below them, making a great noise with their wings.

The casque is creamy in colour and the bill is usually leaden grey, in one specimen, however, it was dirty brown, in another pale ochreous like the casque. It is blacker towards the base, where it is finally bounded by a white line descending vertically across both mandibles in front of the eye from below the nostril. The bare skin below the eye is dark grey or blackish, in one specimen it was strongly tinged with pink. The irides vary a good deal, being bright brown-madder, hazel, deep dusky purple, grey,

or deep brown. The feet and claws are black, the soles pale brownish. Seven of these birds, measured in the flesh, averaged 32·85 inches, with a variation of from 31 to 34·5.

Chirinda is, I believe, the southernmost locality yet recorded for this species.

184. *LOPHOCEROS MELANOLEUCUS*. Crowned Hornbill.

Chindao: "Igoto." Chizwina (Mashona): "Woto."

Rh., P. I found these Hornbills in the upper Jihu, just south of Chirinda, in July 1906, and noted a pair on August 1st on the Kurumadzi. They were common on the Inyamadzi in September, frequently crossing the valley or flying from tree to tree. In ordinary flight they give a few heavy flaps and glide a few yards, then come some more flaps and a glide, and so on. When descending slantwise they glide rapidly, merely making an inward movement of the wings to the sides every few yards.

I again noted them constantly in the Chikamboge Valley and at Maruma in the same month, where one was frequenting a banana-grove within a few yards of Dierking's house. I also met with them at intervals throughout the lowlands, obtaining a specimen at Indabila on January 4th.

185. *HAPALODERMA NARINA*. Narina Trogon.

Rh., P. On August 10th, near the Kurumadzi, a female rose on my approach from a stream, where it had evidently been drinking, into a small tree. It did not appear at all shy, merely ascending by one or two rapid flights and then sitting quietly looking at me with its head over its shoulder and its metallic-green back flashing back the rays of the sun—a lovely bird. Odendaal has since sent me a second female, obtained by him near Chirinda on October 2nd, 1907.

My specimen measured 11·5 inches in the flesh, its stomach contained a larva, grasshoppers, hymenoptera, and quite a number of beetles, including two large Cetoniids. The culmen was blackish, the base of both mandibles gamboge, and the point of the lower light greenish grey. The irides were deep umber-brown and the feet delicate pale pinkish brown, whitish between the scutellations.

186. *CAMPOTHERA ABINGDONI*. Golden-tailed Woodpecker.

Chindao: "Chinyamdododza." Singuni: "Isiqop' umuti." (Both these names are applied to Woodpeckers in general.)

Rh. I have several times come across this Woodpecker in Chirinda and Chipete during the past year, while Odendaal has recently sent me two females from the same locality, dated June 6th and August 19th, and measuring 7·95 and 8·65 inches, respectively, in the flesh.

187. *CAMPOTHERA BENNETTI*. Bennett's Woodpecker.

Rh., P. I noted this Woodpecker once or twice on the Kurumadzi in August on large isolated trees in the grass-jungle. In an immature bird the irides were dark brown instead of deep crimson and the dark grey bill had a white tip to the upper mandible. A female measured 8·5 inches in the flesh.

188. *CAMPOTHERA FUELLEBORNI* Neum. Fülleborn's Woodpecker.

Dendromus malherbei fülleborni Neum. J. f. O. 1900, p. 204.

Rh. I recently received a skin of this Woodpecker shot by Odendaal near Chirinda on August 29th, 1907. It was a male and measured 7·55 inches in the flesh. "Upper mandible very deep sepia-coloured, lower pale leaden-grey with darker point; iris light umber; feet pale olive." This is, so far as I am aware, the southernmost record for this species.

189. *DENDROPICUS ZANZIBARI*. Zanzibar Woodpecker.

Dendropicus zanzibari Malh.; Hargitt, Cat. B. M. xviii. p. 297.

Rh., P. I shot a female of this bird on the Kurumadzi on the 10th of August, 1906. In the lowlands I found it common in December and January at Chibabava, while I also met with it on the Umtefu, again between that river and Chimbuya, and three times between Gezanye and Bimba. Two males measured 6·05 and 6·1 inches in the flesh and a female 6·5 inches. I find that only one of my specimens (from Salisbury in Mashonaland) is typical *D. cardinalis*, without

a yellowish wash above and with a wing measuring 98 mm. All my Gazaland specimens are referable to the East African form tinged with yellow on the under surface and washed with yellowish olive above. The wing-measurement varies from 90 to 94 mm., 79 in an immature bird.

190. *THRIPIAS NAMAQUUS*. Bearded Woodpecker.

Rh. Odendaal obtained two specimens of this Woodpecker near Chirinda during 1907, a male on July 15th, measuring 9 inches in the flesh, and a female on September 3rd, measuring 9.5. The iris in each case was crimson and the feet were blackish.

191. *INDICATOR SPARRMANI*. Sparrman's Honey-Guide.

Rh. I shot a male of this species in the Lusitu Valley on September 19th, 1906. It was sitting bolt upright (unlike what I have noted with regard to *I. minor* and *I. variegatus*) on the top of a small tree, uttering constantly a double "tee-treee!"—piping notes a little like those of *Cossypha natalensis*, but with a trill only in the second syllable. I heard it again on September 30th on a hill-top in Mafusi's country overlooking the Lusitu. Odendaal has since sent me a further specimen, a male, shot by him near Chirinda on June 27th. My male measured 7.6 inches in the flesh. The bill was light pink, the feet were dusky, and the irides light reddish brown. The stomach contained bee-grubs, beeswax, and the head of a termite.

192. *INDICATOR VARIEGATUS*. Scaly-throated Honey-Guide.

Rh., P. I obtained a female and a male of this Honey-Guide on August 6th and 11th, 1906, respectively, in dense bush on the Kurumadzi. The native who was with me on the second occasion said "a Honey-Guide won't die alone—whenever we have trapped one we always know that we have trapped some other bird close by." As at that moment I saw and shot a Sparrow-Hawk he delightedly pointed to this as proof of his statement. The stomachs in both cases contained beeswax mixed with débris of small insects. The two birds measured 7 and 7.1 inches in the flesh. Both

were moving about noiselessly on the larger branches amongst dense foliage. Odendaal has since sent me another male, stated to measure 7·34 inches in the flesh, shot near Chirinda on June 18th.

193. INDICATOR MAJOR. Yellow-throated Honey-Guide.

Singuni: "Inhlalala." Chindao: "Ishezu." (Both these names are applied to all the Honey-Guides.)

Rh. On the 29th of March, 1907, Odendaal shot a male of this species, one of four which were in attendance on a bees' nest that had just been taken from a hollow tree. It measured 7·25 inches in the flesh; the bill was black, the feet were blackish, and the irides brown. The bare skin round the eye was bluish grey. The stomach contained beeswax only.

194. INDICATOR MINOR. Lesser Honey-Guide.

P. I obtained one of these birds on August 6th, 1906, sitting quietly on a branch in the dense bush on the Kurumadzi. It measured 6·25 inches in the flesh; the upper mandible and the point of the lower were blackish, the rest of the lower mandible was pinkish grey, the feet were olive-grey, and the irides dark brown. The stomach contained beeswax and the remains of small insects.

As it still appears to be doubted whether these birds really do lead to honey, I may mention that on May 29th, 1898, I myself and one of my natives were guided by a Lesser Honey-Guide to a bees' nest in a hole in the ground close to the junction of the Hanyani and Makabusi Rivers in Mashonaland, the bird behaving just as it is ordinarily reported to do.

195. LYBIUS TORQUATUS. Black-collared Barbet.

Chindao: "Umkweboro."

Rh., P. In the lowlands from November 1906 to January I met with this Barbet on the Zinyumbo Hills, at Chimbuya, on the Umtefu, and between Muchukwana and Chirinda, always in the open bush. I have on more than one occasion noted a pair facing each other on the same twig two or three inches apart, both bobbing up and down in the most

comical manner, while the male continually uttered the loud "kweboro" note. Both male and female have also a harsher note, in which they indulge on the same occasions. About Chirinda I have frequently come across these birds in the old abandoned fields, particularly from June to August, feeding on the ripe berries of various Lippias, usually in company with Colies, Seed-eaters, and other species. Both the irides and feet vary to some extent, the former, usually chestnut, being in one female crimson tinged with purple, while the feet vary from deep brown to blackish or dark ashy grey. The stomachs examined contained the fruits of *Zizyphus mucronata* and other fruits wild or cultivated, beetles, diptera, Xylocopid bees, and other insects. Their lengths vary in the flesh from 6.85 to 8 inches.

196. *BARBATULA BILINEATA*. White-browed Tinker-Bird.

Rh. I shot one of these birds on the outskirts of Chipete on April 26th, 1906, as it was insect-hunting amongst the flower-laden twigs of a large *Catha edulis*. I have heard them occasionally since both there and in Chirinda.

197. *TRACHYPHONUS CAFER*. Levaillant's Barbet.

Rh. I trapped one of these birds, a male, on July 1st, 1906, in a thorn hedge at the foot of Chirinda, while a second male was obtained by Odendaal in the same locality on May 27th, 1907. Both measured nine inches in the flesh; the bill of the first was pale yellowish green tipped with blackish, the irides were brown-madder and the feet dark ashy grey. The stomach contained guava-seeds, a grasshopper, and a beetle.

198. *CUCULUS SOLITARIUS*. Red-chested Cuckoo.

P. On December 20th, 1906, I shot one of these Cuckoos from the top of a tall *Khaya senegalensis* near Boka; it was continually uttering its loud triple note, with great effort judging from the simultaneous swelling of its body. It measured 12.7 inches in the flesh. The upper mandible was glossy blackish, the lower pale greenish grey with an ochreous base, and the gape was orange. The irides

were dark brown, the eyelids bright gamboge, the bare skin round the eyes was olive-green, and the feet were dull gamboge.

199. *CHRYSOCOCCYX SMARAGDINEUS*. Emerald Cuckoo.

P. I heard this Cuckoo calling on the Kurumadzi on August 5th and 7th, 1906.

200. *CHRYSOCOCCYX CUPREUS*. Didric Cuckoo.

Singuni: "Inchalayandayandai" (in imitation of the bird's call).

Rh., P. During the past year I have come across the Didric in the upper Jihu and occasionally on the Kurumadzi both in August and November. In the lowlands I noted it at several points between Chibabava and Chironda between December and January, and used constantly to hear its call during my stay at the former place. Odendaal has just sent me a male, which he obtained near Chirinda on Dec. 30th, and which measured 7·7 inches in the flesh.

201. *COCCYSTES GLANDARIUS*. Great Spotted Cuckoo.

P. I twice noted a pair of these Cuckoos on December 6th, 1906, in the *Brachystegia* bush near Arucate. In three specimens which I obtained in Mashonaland in January 1899, the eyelids were vermilion, the feet blue-grey, while the bill was dull black, white at the angles. The stomachs examined contained locusts, beetles, and quantities of large hairy caterpillars.

202. *COCCYSTES HYPOPINARIUS*. Black-and-Grey Cuckoo.

Rh., P. This larger grey-chested race of *Coccystes jacobinus* is represented in my collection by No. 1115, a female shot at Zinyumbo on Nov. 25th, 1906, having three well-developed eggs in her ovaries. On the other hand, a specimen obtained near Chirinda on February 6th is certainly typical *C. jacobinus*, while No. 471, shot in the same locality on March 1st, is intermediate between the two, both in colour and in measurements. I found these birds common from the Chinyika River to the Zinyumbo

Hills in November, usually in pairs, chasing one another about, and uttering their loud piping notes, some of which may be rendered as "Tyo-whi-whi-whiri!" "Tyo-whi-tyo! tyo-whi-tyo," "Tyo-whi, tyo-whi," &c. I also frequently came across them perched on the top of a tree, with crest brought forward, uttering a loud harsh "gweh-gweh-gweh" (almost reminding me of a frightened Blackbird) or an equally harsh "tsherr! tsherr!" They are easily distinguished at a distance from birds of the same coloration by their Touraco-like habit of repeatedly flirting up their tail, in which they indulge when settling in a tree or calling. In the lowlands I met with them between Chimbuya and the Umtefu, between Chibabava and Muchukwana, and at Bimba. In my specimens the irides have been brown and the bare skin round the eyes pale grey. Length in the flesh from 13 to 14.2 inches. The stomachs examined contained beetles and numbers of large hairy caterpillars. Odendaal has recently sent me a young male with deep grey breast, obtained near Chirinda on Jan. 1st.

203. COCCYSTES CAFER. Levaillant's Cuckoo.

Rh. Stanley obtained a specimen of this Cuckoo, a female, near Mafusi on April 13th, 1906. It is now in the British Museum.

204. CENTROPUS BURCHELLI. Burchell's Coucal.

Chindao: "Igudu-gudu" (in imitation of the bird's loud repeated call). Singuni: "Umfuku."

Rh., P. A typical nest of this bird, found on September 30th, 1906, near Chirinda, may be worth describing in detail. It was placed in the centre of a dense thicket of *Bauhinia galpini* eight feet from the ground and was almost impossible to be got at except with the aid of an axe. It was quite a haystack of a nest, 20 inches deep by 12 wide, constructed of a mass of dry grass, twined very loosely together into a flimsy shell, with a large opening in the middle of one side. The cup was lined with a few leaves of *Bridelia*, *Brachystegia*, and *Bauhinia*, which just served to prevent the eggs, four in number and pure white, from

falling through. The eggs are always rounded and measure from 34 to 37 mm. in length and from 24.5 to 27 mm. in breadth. The irides of all my specimens have been carmine, and the feet dusky grey or blue-grey, somewhat blackish on the toes. The base of the gonyx is whitish. A fair-sized bug, a migratory locust, three or four snails (including fragments of a particularly large species of *Achatina*), beetles, and grasshoppers have been amongst the contents of the stomachs examined.

My Salisbury (Mashonaland) specimens prove to be *Centropus flecki* Rehw.

205. *CENTROPUS NIGRORUFUS*. Natal Concal.

Rh., P. During the past year I have noticed this bird near Chirinda, at Maruma, and in the Jihu. The stomach of one which I obtained some time ago contained beetles.

206. *TURACUS LIVINGSTONII*. Livingstone's Touraco.

Singuni: "Igwalagwala." Chindao: "Ihurukuru."

Rh., P. I have noticed that these Touracos call most in the morning and evening, particularly the latter. One individual will start the loud quick "ká-ka-ká-ka-ká" note, half a dozen others will join in, and finally all will end up with a regular chorus of the crowing note—really quite deafening when close at hand. I noticed this Touraco during September in a wooded glen near Maruma and in one of the forest-patches in the Chikamboge Valley. In the lowlands I came across it in December and January amongst the dense-foliaged trees that line some of the dry streams between the Umtefu and Chibabava, and found it to be not uncommon in the Madanda forests.

207. *GALLIREX PORPHYREOLOPHUS*. Purple - crested Touraco.

Singuni: "Igwalagwala." Chindao: "Ihurukuru."

Rh., P. In March and April the Purple-crested Touraco constantly visits the outskirts of small outlying forest-patches for the sake of the berries of *Echebergia meyeri*, which are then ripe. Usually it prefers the open woods. In the lowlands I found it to be comparatively plentiful between

Chibabava and Chirinda, and noted it at a sand-stream between the Mwaingezi River and Chimbuya, at Chibabava, and in the *Brachystegia* woods near Arucate. On November 4th I examined a nest of this species, out of which the young birds had recently flown, though they were still hanging about the spot. It was the slightest of structures, about 7 inches in diameter, and exactly resembled that of a Turtle-Dove, just a few small twigs laid on the thick horizontal bough of a *Bridelia* overhanging a stream, twenty feet from the ground. The nest contained the outer husk of a Cape gooseberry (*Physalis*), and the quantities of droppings all round were composed chiefly of the wild fig. Dierking also found a nest in November at Maruma, and sent me one of the young birds. My tame bird ate the eggs of a *Haploelia* which had been laid in my aviary.

208. SCHIZORHIS CONCOLOR. Grey Touraco.

Singuni: "Umdhluwe" or "Umxuwe" (the "x" representing a Zulu click).

I heard a "Go-away Bird" on the Mwaingezi River on the 25th of November, 1906. The stomach of my Mashonaland specimen contained young leaves and a large seed.

209. PŒOCEPHALUS ROBUSTUS ANGOLENSIS. Brown-necked Parrot.

Chindao: "Chihwangwa." Singuni: "Ihokwe" or "Isikwenene" (these three names being applied to all Parrots).

Rh., P. In August in the Jihu a few scattered individuals were to be seen every evening flying high overhead and making for the direction of Chirinda. The local natives informed me that they knew of no roosting-place in the Jihu itself, and that the Parrots were in the habit of doing the journey, fourteen miles from where I was encamped, twice daily. In November 1906 and in the following January I met with these Parrots in the Zinyumbo Hills and on the Umswirizwi, the latter being also, I believe, Chirinda birds.

210. *PŒOCEPHALUS FUSCICAPILLUS*. Brown-headed Parrot.

Rh., P. Two of these Parrots flew over my homestead near Chirinda on August 29th. It is the common species of the low veld, and I came across it constantly in travelling from Inyajena to Chibabava and on to Chirinda, as well as in the Madanda forests during December and January. It might usually be heard all day in the dense foliage of the large *Trichilias* and other trees in parties of as many as six or seven together. Under these circumstances a continuous conversation of comparatively pleasant conversational notes is kept up, the shriek uttered in flying being somewhat harsher, though less piercing, than that of our other two species. It is far tamer than either of these and will usually permit anyone to pass under the tree without moving, though even then its green coloration renders it very difficult to detect amongst the dense foliage. A female obtained near Chibabava in December measured 9·5 inches in the flesh; the upper mandible was blackish with a somewhat paler base, the lower dull white. The feet, cere, and the bare skin round the eye were very dark grey and the irides yellow. The stomach contained seeds and the remains of fruit.

211. *PŒOCEPHALUS MEYERI*. Meyer's Parrot.

Rh., P. I noticed this Parrot several times in the Inyamadzi Valley on September 8th, 1906, and again at the end of November in the Zinyumbo Hills and on the Mwangezi River.

212. *STRIX FLAMMEA*. Baru-Owl.

Rh. Odendaal noted one of these Owls on April 3rd, 1907, in a grove of *Eucalyptus saligna* close to my homestead. Owls are among the few birds which are never eaten by the natives.

213. *STRIX CAPENSIS*. Grass-Owl.

Rh. Odendaal obtained an immature female of this Owl near Chirinda on June 14th, measuring 13·85 inches. The bill was "whitish with brown patches from base to tip, the

cere was very dark brown, the irides were almost black, and the feet blackish grey." The back in this specimen is black with only faint traces of the white spots.

214. *SYRNIUM WOODFORDI*. Woodford's Owl.

Singuni: "Isikova"; occasionally, to distinguish it from other species, "Isikova esincani" (Small Owl) or "Isikova esibungwini" (Wood-Owl).

Rh. Woodford's Owl occurs in wooded glens as well as in Chirinda, and its call may frequently be heard at night, when it is repeated with peculiar insistence on the occurrence of any disturbance or noise, as when a leopard calls or a party of Hornbills flies off on the approach of a lantern. My tame bird of this species forms a great contrast in its habits and disposition to an individual of *Bubo maculosus* which is its fellow-prisoner. Unlike the latter, it remains exceedingly sleepy all day and is usually to be found with eyes half closed and head well down between the shoulders. If spoken to it invariably turns its head slightly and replies by a rapidly-repeated slight clapping of the bill, accompanied by a rapid blinking of the nictitating membrane, the eyelid remaining half closed all the time. It will sometimes keep up a long friendly conversation in this way if one continues to reply, never, however, opening its eyes or rousing itself in the least. At night when awake it quite justifies the Kafir idea of Owls as the most foolish of birds, flying invariably to the wrong place for its food, and sometimes backing away from it in alarm when it has found it. It will usually hold its food up in one claw and eat somewhat after the manner of a Parrot, transferring it to the other when tired. It is very tame and greatly enjoys having its head scratched, particularly between the eyes, standing quietly with its beak on the table while this operation is in progress, and uttering a contented little chirrup, very different from its usual wearisome hiss. It is particularly fond of bathing, completely submerging its face and shaking its head vigorously from side to side, splashing the water in all directions and incidentally sprinkling its plumage. When five months

old it still differed from the adult specimens in my collection in the larger size of the triangular white markings of the upper surface, and the fact that the lighter bars and markings were throughout paler and more conspicuous. In these adults the bill, cere, and feet were Naples yellow, the former with a dusky commissure; the soles brighter, almost gamboge. The opening of the ear and the bare skin round the eye were both pale Naples yellow, the latter tinged with green. 14.25 (in two cases) and 14.8 inches represent the length in the flesh of three specimens recently measured.

215. *BUBO MACULOSUS*. Spotted Eagle-Owl.

Singuni: "Isikova." Chindao: "Ikwikwi" (the latter name appears, however, to be often used with special reference to *Bubo lacteus*).

Rh., P. I heard this Owl calling on the Kurumadzi River in August and noted it again on the Lusitu in September, and at Arneate on December 5th, 1906, as well as at frequent intervals on the hills round Chirinda. I have had one of these Eagle-Owls in captivity for more than eighteen months. It was winged when harrying a poultry-yard, and my Kafirs were at first in deadly terror of it on account of their superstitious in connexion with these large Owls. Certainly when endeavouring to frighten an intruder it is most fierce and ominous-looking, forming a very great contrast to my *Syrnium woodfordi*. It has now lost much of its old fierceness of demeanour towards myself and others to whom it has become accustomed; but if a stranger approaches the cage it ruffles up its feathers in quite its old fashion, dances slowly first on one foot, then on the other, snaps its bill repeatedly and loudly and hisses, swells its throat-feathers in and out, at the same time moving its tongue backwards and forwards, while it glares steadily at the intruder in the most ferocious manner with its great yellow eyes. Usually it remains stock still on its perch all day with its eyes half closed and its feathers smoothed down, looking like a bit of old weathered branch; but it is very vigilant, and if a dog passes, or especially my monkey (towards which it has

conceived a great aversion), it promptly assumes its most truculent manner. It will often take food from the hand, generally, however, after a slightly hostile demonstration. It will finish a Guinea-fowl in two nights and has on one occasion eaten practically the whole of a wild Duck (skinned) in one. It calls constantly at night—two notes, the first invariably double, the second long-drawn—"Hoo-oo hoooo!"—a pleasing cry. A male measured 18 inches in the flesh and its stomach contained two shrews. The feet in all my specimens have been dull or light grey.

216. BUBO LACTEUS. Verreaux's Eagle-Owl.

Singuni: "Isikova esikulu" or "Umvus' inkunzi" (wake-the-bull). Chindao: "Ikwikwi" or "Izizi."

Rh., P. During the first half of August one of these fine Owls visited the neighbourhood of my camp on the Kurumadzi for some days. It frequented some large *Pterocarpus* trees scattered through the grass-jungle and kept up its hollow sepulchral hoot all day and all night. Like my tame specimen of *Bubo maculosus* it was very wakeful, even in the daytime, and very unapproachable, at once making off with a soft flapping flight if approached to within eighty yards, and perching on one of the larger bare horizontal branches of some tree further on. The hoot at a distance is somewhat like the call of a leopard, but more broken and jerky—a deep hoarse repeated grunt, which, especially at close quarters, cannot be mistaken. My natives, of whom I had a large gang sleeping under an open shelter, were extremely nervous, believing that the presence of the Owl foreboded disaster, and kept up large fires all night. Actually there were two lions about at the time and a young native was taken from a neighbouring village. On September 8th I was ascending the wooded slope of Umtereni, near the Upper Buzi, when an individual of this species flew over with what appeared to be a black Kafir fowl in its claws. This was at noon on a very hot day. It had hardly settled in a dense-foliaged tree lower down the glen when a pair of *Aquila wahlbergi* descended with loud cries and

circled about the Owl, one of them finally settling on the same branch with the evident intention of robbing it. The Owl was greatly excited and was keeping up its deep grunting hoot without intermission, but unluckily the Eagles saw me at this moment and made off in ever-ascending circles into the air.

A fine male of this species was brought to me on July 29th, 1906, by a Zulu, who had shot it as it was endeavouring to effect an entrance to his hen-roost near Chirinda. It measured 24 inches in the flesh; its bill was very pale green-grey, the cere slightly darker with a distinct tinge of dusky cobalt; the base of the claws was like the cere, but with blackish tips; the soles were dirty whitish; the skin of the upper eyelid was greenish white (practically the same as the bill), tinged in the centre with a slightly wattled patch of rose-pink.

On April 11th, 1907, the same native brought me two nestlings in down. The nest, he stated, was on the ground amongst long grass. These birds used to utter when feeding a harsh low chirp and a feeble mouse-like squeak, and when annoyed they could already hiss most vigorously. They also possessed the low stridulous hawk-like note uttered by *Syrnium woodfordi* when hungry. When hungry themselves they used to become quite energetic, tumbling over each other and mouthing with their beaks over one's fingers, each other, and the sides of the basket in which they were confined. They were covered with long buff-coloured down, that on the face being much shorter and whiter, while its distribution there in two separate ridges connecting the eyebrow with the cere added greatly to the ugliness of the birds. They had a curiously vulturine appearance, and a high fringe of down (growing only along the centre of the crown, but overhanging and completely hiding the bare tract on either side as far as the orbits) formed a great contrast to the comparative bareness of the face. The bill and cere were pale fleshy pink, the ridge of the latter dusker. The feet were pale dusky, lightest below the ankle-joint (where feathers were already appearing), and becoming dusker towards the

ends of the toes. The tarsi were scaled, with only faint traces of budding feathers.

217. *SCOPS CAPENSIS*. Cape Scops Owl.

Chindao: "Chidzizimbori."

Rh. Odendaal secured a male of this species on July 31st, 1907, near Chirinda. Its bill was "black, the cere was dusky, the irides were deep gamboge, the eyelids brown, and the feet grey-brown."

218. *FALCO SUBBUTEO*. Hobby.

Rh. On March 22nd I noted three Hobbies flying over in the neighbourhood of Chipete. I had only previously seen this bird on two or three occasions in Gazaland, though I obtained a number of specimens near Salisbury in January 1899. In the gullet of one of these I found a *Terias* butterfly, almost intact.

219. *TINNUNCULUS RUPICOLA*. South-African Kestrel.

Singuni: "Ukozi." Chindao: "Igodzi." (These terms are applied indiscriminately to nearly all Hawks.)

Rh., P. A male of this species which I shot near Chirinda on June 25th measured 12·5 inches in the flesh, and its stomach contained a number of locusts.

220. *TINNUNCULUS DICKINSONI*. Dickinson's Kestrel.

Rh. Odendaal obtained a male of this Kestrel near Chirinda on May 21st, 1907. It measured 12·85 inches in the flesh; its bill was "blackish (bluish at base); the cere, base of lower mandible, gape, bare skin round eye, and feet were deep gamboge; the irides deep vandyk-brown."

221. *AQUILA RAPAX*. Tawny Eagle.

Singuni: "Uqosi." Chindao: "Igamo." (These two names are applied to many of the larger Eagles.)

Rh., P. In the lowlands from November to January I noted this fine Eagle in the Zinyumbo Hills, at Gwaragwara, and between the Muzala and Inyajena. On September 13th I watched an individual at Maruma perched on a low acacia beside a Kafir kraal, with an eye on the

fowls, which were scratching away within a few yards. The scene reminded me of a common native tradition professing to account for the relations between Kites and Fowls. The Kite, they say, formerly lived with the chickens in perfect amity, till they lost a knife which he had entrusted to their care. Ever since, the chickens have continued scratching up the ground in their feverish endeavours to find that knife, while the Kite has continued to make them pay for losing it.

222. *AQUILA WAHLBERGI*. Wahlberg's Eagle.

Rh., P. On October 30th, 1906, I found a nest of this Eagle near Chirinda placed about twenty-five feet from the ground in the thick fork of a large *Faurea saligna* standing close to a stream. It was a rough stick-structure 18 inches wide by about 15 deep. Outside was a mass of dry *Faurea*-twigs, supplied in abundance by the tree itself, which had been scorched by the grass-fires about three months before; inside, or rather above, for the nest was flat and cupless, was a dense layer, $3\frac{1}{2}$ inches thick, of *Faurea*-leaves still attached to the ends of the twigs, which had been just coming into bud when picked. This indicated a considerable lapse of time between the completion of the nest and the laying of the egg, as the tree was in full bloom. The egg, which was quite fresh, was dirty brownish white in ground-colour, thickly freckled with rather light reddish brown, and clouded, chiefly on one side, with richer reddish, perhaps from a blood-smear. An egg which I took near Salisbury on November 12th, 1898, was very different, the ground colour being dirty white, with large pale blotches and freckles of pale brown and fainter blotches of brownish grey. The nest was very much the same in construction and was also placed about twenty-three feet from the ground in the fork of a large *Brachystegia* growing beside a river. The eggs measured 60 mm. each in length, by 46 and 47·7 mm. in breadth. The iris of my Mashonaland female was umber. The feet, cere, gape, and base of the lower mandible were of a rather bright Naples yellow, the last three slightly

tinged with green, while the orbital ridge and other bare skin round the eye were of a dull olive-green.

223. *LOPHOAËTUS OCCIPITALIS*. Crested Hawk-Eagle.

Chindao: "Ifinye."

Rh., P. On September 13th, near Maruma, within quite a small radius, I saw several of these Eagles, including one in light immature plumage, for the most part wheeling high overhead with their weird scream "Queer"! In heading against the wind they tack a good deal, giving five or six flaps, then gliding off slightly from the wind, then taking a few more beats up against it, and so on, the scream being uttered every few seconds. I noted the bird on the Kurumadzi in August and November, and at Chibabava, following the river, in December.

224. *HALIAËTUS VOCIFER*. Sea-Eagle.

P. I saw one of these fine Sea-Eagles standing on a sand-bank at the edge of the Buzi River at Gwaragwara, on December 21st, 1906.

225. *HELOTARSUS ECAUDATUS*. Bateleur.

Rh., P. In the lowlands I noted this fine Eagle on November 26th between Chimbuya and Umtefu, and again at the mouth of the Buzi on December 22nd. It is evidently not averse to carrion, for an individual, during a period of mortality amongst my small stock, used to constantly frequent the spot where the dead goats were thrown out. I had just crossed the upper Buzi on September 8th, when down swooped a fine pair of Bateleurs, the male in hot pursuit of the female (at once distinguishable by the broad black edging to its secondaries), with a tremendous whistle of the wings, and, after nearly touching the tree-tops, made off (as described by Marshall, 'Ibis,' 1900, p. 258), swooping and twisting and circling without a flap of the wings to a great height.

226. *GYPÆTUS OSSIFRAGUS*. Southern Lammergeyer.

P. A fine specimen of this bird was obtained by Dierking at Maruma early in 1906.

227. *ASTURINULA MONOGRAMMICA*. African Buzzard - Eagle.

Rh., P. Chipinga and Spungabera are localities in which I have recently noticed this species, and I have lately received a male from Odendaal, shot by him near Chirinda on April 9th, 1907. It measured 12·8 inches in the flesh.

228. *BUTEO AUGUR*. Augur Buzzard.

Rh. On the 13th of September, 1906, Odendaal secured a specimen of this Buzzard, a female in immature plumage, near Chirinda. Its bill was blackish, its cere, feet, and irides were yellow. It measured 21·1 inches in the flesh, and its stomach contained sixteen of the common red migratory locusts and three pupæ.

229. *MILVUS ÆGYPTIUS*. Yellow-billed Kite.

Singuni: "Inkoinyana." Chindao: "Indjerere." Chizwina (Mashona): "Ingavi."

Rh., P. I shot a male Yellow-billed Kite, which had evidently been recently breeding, on the Kurumadzi on August 2nd, 1906. This was about a month earlier than I have ever seen the bird in this district before. The natives would have it that it was not a Kite, but an Eagle, "because the time had not yet come for the Kites to leave their holes"! I again saw two examples near Chirinda on the 16th of the same month, and on the following day six, all pursuing swarms of locusts, while from that time they became comparatively plentiful. They were common at Melsetter in September, on the 24th of which month I saw one with a snake in its talons, at which it took an occasional leisurely pull as it sailed slowly past. In the lowlands from November to January I found them occurring at constant intervals throughout from the Jihu to Gwaragwara, and again from Chibabava south to Arucate. They always flock to grass-fires, one Kite after another appearing on the scene directly the fire is lit, while their graceful gliding flight answers the slightest turn of the tail. It is a most pleasing sight to watch a Kite wheeling in circles in the smoke, while it turns its head, now to one side, now to the other, to ascertain

whether the dusky particles flying past are merely scraps of ash or more substantial fare. When it sights prey it suddenly hastens its flight, still without a flap of the wings, upwards, downwards, or sideways towards the object. This, if above, it seizes in its bill and, transferring it to its claws, eats it as it flies along without the least interruption of its gliding motion. Sometimes, if the insect is not sighted till the bird is almost on it, the turn to seize it will be sudden, or the bird may turn a somersault in securing it, but here again every movement is characterized by the most perfect grace.

230. *ELANUS CÆRULEUS*. Black-shouldered Kite.

Rh. I have met with this bird fairly frequently at various localities in Northern and Southern Masetter, particularly during the past year.

231. *ACCIPITER MINULLUS*. Little Sparrow-Hawk.

P. I secured an immature male of this species on August 11th, 1906, on the Kurumadzi, perched on a tree in the grass-jungle. The cere, gape, and eyelids were light yellow tinged with green, the irides and feet deep gamboge, and the bill and claws black. It measured 8·85 inches in the flesh and the stomach contained the remains of a Sun-bird.

232. *ASTUR TACHIRO*. African Goshawk.

Rh. This is the only Hawk which I have found habitually entering the forest of Chirinda. A male, secured on June 26th, 1906, while harrying the fowls at my homestead, measured 15 inches in the flesh, and its stomach contained the remains of a bird, apparently *Macronyx capensis*. The iris in this specimen was greenish yellow, suffused with green immediately round the pupil, and the tarsi and feet were Naples yellow tinged with green on the toes. In a very old male, measuring 14·5 inches in the flesh, trapped in the forest and brought to me alive on July 25th, the iris, tarsi, and feet were all orange-yellow. In both the eyelids were orange lined internally with a rim of blackish, the bill was black or blackish, pale blue towards the base, the gape yellow, while the orbital ridge, cere, and extreme base of the bill were dull olive-green, and the claws blackish.

233. *PHALACROCORAX AFRICANUS*. Long-tailed Cormorant.
Singuni: "Inyaopetana." (*P. lucidus* of my last paper, 'Ibis,' 1907, p. 304.)

Rh., P. In the lowlands I met with this Cormorant on November 25th at the pools near Zinyumbo's kraal and found it to be quite plentiful, mostly in full black plumage, at the large pools, already mentioned, near Chibabava. There it was to be found both in the water and perched, sometimes in parties of four or five, on the branches of the large trees on the banks. Two females measured 22·1 and 22·6 inches respectively in the flesh and the stomachs contained the remains of fishes and of insects, the latter probably aquatic. The irides were carmine, the bare patch round the eye was yellowish grey; the lower mandible pale yellowish brown and the upper deeper brown, both with darker transverse markings, the actual culmen being blackish.

234. *PELECANUS ROSEUS*. Eastern White Pelican.

P. This Pelican appears to occur on our coast, as I have been shown a portion of a skin which was stated to have come from the mouth of the Buzi.

235. *CICONIA NIGRA*. Black Stork.

Rh. On September 2nd, 1906, three of these birds settled for a few minutes on the summit of the higher trees on the Chirinda outskirts.

236. *SCOPUS UMBRETTA*. Hammerkop.

Singuni: "Itcgwana."

Rh., P. The only locality in which I noted this bird during my low-veld journey was on the Buzi River at Chibabava.

237. *ARDEA CINEREA*. Grey Heron.

P. On 21st December I saw quite a number of these Herons on the sandbanks between Malata and the mouth of the Buzi.

238. *ARDEA GOLIATH*. Goliath Heron.

P. Three enormous Herons with very dark under parts,

probably referable to this species, passed me flying towards the river on the evening of December 11th near Chibabava.

239. ARDEA PURPUREA. Purple Heron.

P. On the 2nd and 12th of December I several times flushed these birds in some large pools near Chibabava, always solitary individuals and very shy, which got up well out of range and flew three or four hundred yards before settling again. A male which I secured on the 12th measured 36·8 inches in the flesh and its stomach contained a dragon-fly, the remains of a fish, and the débris of aquatic insects. The irides, both in this specimen and in a female shot in Mashonaland in 1898, were very pale lemon-yellow. In the male the bare skin of the face was greenish yellow, becoming dusky brown below the eye; the culmen was blackish, the base of the lower mandible greenish yellow, its apical half, as also the commissure in the upper, a warmer yellow. The tibio-tarsus was pale gamboge, changing to rather duller yellow on the back of the tarsi and on the soles, the front of the tarsus and toes deep sepia. In the female these colours were represented by pale green and dusky olive-green respectively.

240. HERODIAS ALBA. Great White Egret.

Singuni: "Intechana."

P. On December 2nd and 12th I found quite a number of these large White Egrets on a series of pools near Chibabava, looking very handsome and conspicuous at a distance. They were standing about singly or in twos or threes in the water amongst the sedge, and when disturbed flew to the tops of the higher trees. They were very shy. I noted them again at Gwaragwara.

241. BUBULCUS IBIS. Cattle-Egret.

Chizwina (Mashona): "Chifudza-ngombe."

Rh. I noted a pair of these birds on the Haroni River on September 26th, 1906, and I have little doubt that the birds referred in my last paper ('Ibis,' 1907, p. 305) to *Herodias garzetta* really belonged to the present species.

242. *ARDEOLA RALLOIDES*. Squacco Heron.

Chindao : " Chipugwa-pugwa."

P. On the 2nd of December I noted quite a number of these birds near Chibabava at the pools which I have already mentioned, chiefly in parties of four or five. The stomachs of two of my specimens contained fish, a large spider, and a grasshopper.

243. *ERYTHROCYNUS RUFIVENTRIS*. Rufous-bellied Heron.

Singuni : " Inyakola encani."

P. These birds were fairly common about the pools between Chibabava and Mangunde on December 2nd. They would fly, when flushed, for fifty yards or so—seldom much further—and settle down quietly in shallow water amongst the sedge. I saw one squatting down on the point of a dry branch projecting from the water. My specimen, a female, has much less chestnut on the upper wing-coverts than have any of the specimens in the British Museum. It measured 18.55 inches in the flesh, and its stomach contained the remnants of beetles and what looked like a portion of the front wing of a butterfly. The tarsi and toes were light gamboge tinged with olive, the claws olive-grey; the iris was gamboge with an outer ring of orange. The bill was for the most part dusky olive-grey, becoming nearly black at the point, but the base of the lower mandible was bright green and the whole of its median portion, as well as the upper mandible immediately along the commissure, was very pale brown. The skin below and just above the eye was carmine-pink, changing into pale orange and yellowish green in front towards the nostril.

244. *ARDETTA PAYESI*. Red-necked Little Bittern.

P. In December I flushed a small Bittern from the sedge of the large pools near Chibabava which from its slaty back and buff coverts I took to belong to the present species.

245. *HAGEDASHIA HAGEDASH*. Hadada.

Singuni : " Ingangá " (The "ng" pronounced softly like French nasal "n").

P. Hadadas were very common on the river at Chibabava from November to January, and might often be seen on dead branches overhanging the water. Choruses of their bleating Trumpeter-Hornbill-like cries, which the native name well imitates, were to be heard at all times of the day. I again found them near Boka.

246. *SARCIDIORNIS MELANONOTA*. Knob-billed Duck.

Singuni: "Isckwi."

On December 2nd I came on a pair of these birds feeding in a pool near Chibabava in company with *Dendrocygna viduata*, *Herodias alba*, and *Ardea purpurea*.

247. *DENDROCYGNA VIDUATA*. White-faced Duck.

Singuni: "Inyakakenc."

P. I found these Ducks exceedingly plentiful in December on the pools between Chibabava and Mangunde, in pairs or in parties of from half a dozen upwards. In one case two flocks, numbering twenty-five and forty-nine respectively, rose from within a few yards of each other, and on some occasions (a shot fired at some distance being enough to flush them) there must have been from a hundred to a hundred and fifty of these Ducks in the air together. They have two whistling notes, or more rarely three, frequently uttered by the whole flock together, as it flies along, sometimes in more or less wedge-formation, sometimes not. They were easy to shoot, for when flushed they would circle backwards and forwards two or three times over the swamp, and seldom went more than a few hundred yards before again descending. A breeding female, one of a pair shot on December 2nd, measured 18.55 inches in the flesh. The tarsi, feet, and webs in all my specimens were light bright blue-grey, and the nails, the transverse scutes of the toes, and the scales covering the front of the tarsus black, the divisions between the scales remaining pale blue-grey; the irides were deep burnt sienna. One of the stomachs examined contained a small larva and grit, and in both crop and stomach were large quantities of a small black seed.

248. *ALOPOCHEN ÆGYPTIACUS*. Egyptian Goose.

Rh., P. I had in my aviary, for a short time during April of 1905, a gander of this species, which with two geese had been obtained by Mr. J. Ballantyne from the Sabi. It is said to be quite common on that river, and I noted three on the Mwangezi at the end of November. The male examined by myself measured about 29 inches in length in the flesh.

249. *ANAS SPARSA*. Black Duck.

Singuni: "Isekwi."

Rh., P. This undoubtedly is the commonest Duck in the higher portions of the country. I have come across it on several occasions of late and have had examples brought to me alive by natives, who are in the habit of snaring them. The Jihu, the upper Buzi, and the Umswirizwi headwaters near Chirinda are amongst the localities specially noted. The length of one of my specimens, measured in the flesh, was 22·25 inches, and of another, a female, 20 inches. These Ducks thrive fairly well in captivity.

250. *VINAGO DELALANDII*. Delalande's Green Pigeon.

Chindao: "Ihuriti."

Rh., P. These birds were present in some numbers in the small forest-patches of the Chikamboge Valley during September 1906. They are usually very shy, but when a common round-leafed fig-tree ripens its fruits they do not hesitate to settle in the branches and to commence feeding, even while a person is moving about underneath. The birds in my aviary converse with one another in low grunting notes. Their sidelong awkward shuffle along the branches contrasts with the neat and confident forward march with out-turned toes of *Haplopelia larvata*. Two of these birds in my collection measured 11·1 and 12·5 inches respectively in the flesh.

On the 20th of November Odendaal found a nest high in a tree in the open woods near Chirinda, trapping the bird on it. There were two white elliptical eggs, measuring 32 by 25 mm.

251. TURTUR SEMITORQUATUS. Red-eyed Dove.

Chindao: "Igówara." Singuni: "Ikopoya" or "Ijuba," the latter name, however, applying to Doves in general.

Rh., P. On the Kurumadzi in August and November these large Doves were always to be seen perched conspicuously on tree-tops in the bush surrounding Kafir clearings, feeding in the fields, or, in the early morning, congregated in parties of seven or eight on the banks of the streams. At Maruma they were very common in September in flocks of from twenty to forty individuals, feeding about the homestead, in the pig-styes, &c., like tame pigeons. In the lowlands from November to January I met with them frequently from Mount Singuno to Chimbuya, but thence to the Umtefu *Turtur damarensis* appeared to be equally common. Throughout the Madanda forests and in the neighbourhood of Chibabava they were constantly to be seen and heard, and I again met with them in considerable numbers drinking at some water-holes in very dry country between Chironda and Boka.

A male in my collection measured 13·25 inches in the flesh, a female 11·75 inches. In both the bill was black, the base with a whitish bloom; the bare skin round the eye was grey, its wattled portions and the eyelids dull crimson, and the irides were coppery pink. The feet were crimson in the male, purple in the female.

252. TURTUR DAMARENSIS. Damara Turtle-Dove.

Chindao: "Idekùruru" (in imitation of its note). Singuni: "Igugulwana" or "Ijuba."

Rh., P. I heard one of these Doves calling repeatedly in the open bush on the Umpudzi River (Umtali District) in April 1907, in the dead of night. A curious courtship, through the wires, took place during July and August between a wild bird and one that had been in my aviary for many months. In the low veld I noted this Dove in some numbers between Chimbuya and the Umtefu, and again at Bimba and Inyamita. Two males in my collection measured 10·4 and 10·5 inches in the flesh, respectively, and a female

10·2 inches. This is *Turtur capicola* of my paper in 'The Ibis' for 1907, p. 306.

253. *TURTUR SENEGALENSIS*. Laughing Dove.

Rh. On March 7th, 1906, I saw one of these Doves between Chirinda and Spungabera, in thorn- and grass-jungle country, and Odendaal has recently sent me a female, obtained by him near Chirinda on Jan. 12th, 1908.

254. *TYMPANISTRIA BICOLOR*. Tambourine Dove.

Singuni: "Isibambalam." Chindao: "Chipuri."

Rh., P. Both in the dense bush of the Jihu, where it is plentiful, and on the outskirts of Chirinda this species will venture out a few yards to feed in cultivated ground, but it is exceedingly shy and retreats into the thicket at the slightest alarm. I noted it at Brent's, on the Lusitu, in September, and at Arucate early in December. In the latter month I also shot a breeding male in the open woods at Chibabava, the only occasion on which I have found the birds in this kind of country. Fifteen of them averaged 8·61 inches in the flesh, with a variation of from 8·2 to 9 inches. A number of stomachs examined contained seeds of *Sorghum*, *Eleusine*, *Albizzia*, *Celtis*, and two species of *Croton*. The bare skin round the eye is dark grey.

255. *CHALCOPELIA AFRA*. Emerald Spotted Dove.

Singuni: "Isibambalama." Chindao: "Chipuri."

Rh., P. Unlike the preceding species, this Dove is very tame and confiding, and is always to be seen walking about and feeding in cultivated ground. It has increased noticeably in numbers in the neighbourhood of Chirinda during the past year, as well as being found fairly commonly throughout all parts of the country which I have visited—northwards to and beyond Melsetter and eastwards to the coast. It is common in the grass-jungle on the Kurumadzi, but particularly in the Kafir clearings, where I found it extremely tame, moving on only a few yards when flushed at very close quarters. In the low veld from November to January I noted these Doves particularly at the Mwangezi and Umtefu

Rivers, and at various points between the latter stream and Chibabava. In the last-named locality they were plentiful, both in cultivated ground and at the edges of pools, whither they had evidently gone to drink. Bimba was another locality at which I noted them, while at Arucate they were again quite common. Four of these birds averaged 7·9 inches in the flesh, with a variation of from 7·65 to 8·12 inches. Out of five specimens in my collection the wing-spots were green only in one, an adult female, not breeding, shot on the Kurumadzi on August 4th. In the colour of its bill &c. it exactly resembled the blue-spotted birds, of which I shot three at about the same time in the same neighbourhood. I do not think that they can be regarded as specifically distinct. The feet vary from light crimson to dull purple; the bill is pale reddish brown or pale brown-madder, the base blackish tinged with purple.

256. *HAPLOPELIA LARVATA*. Lemon-Dove.

Singuni: "Igwajiya."

Rh., P. This Dove appeared to be by no means scarce in portions of the denser bush on the Kurumadzi in August and November. I have shot a breeding male as late as May 10th, and a female with well-developed ovaries on June 14th—almost mid-winter. *Celtis*- and *Croton*-berries have been present in most stomachs which I have examined, with, in one case, the seeds of a large climbing *Gouania* and as many as eleven small snail-shells. My specimens seem all to belong to the Nyasaland form, which was separated by Capt. Shelley as *Haplopelia johnstoni* ('Ibis,' 1893, p. 28, pl. iii.).

257. *FRANCOLINUS SEPHÆNA*. Crested Francolin.

Rh. Odendaal has recently sent me a specimen of this bird, a cock obtained by him near Chirinda on July 9th, 1907. It measured 13·5 inches in the flesh; its bill was "blackish, bare skin round eye pale blue-grey, a bare patch above the ear brownish grey, irides dark brown, and feet light vermilion."

258. *FRANCOLINUS SHELLLEYI*. Shelley's Francolin.

Chindao: "Idambira." Singuni: "Itendele."

Rh., P. A female of this common Francolin measured 14.75 inches in the flesh.

259. *PTERNISTES HUMBOLDTI*. Humboldt's Francolin.

Singuni: "Inkwali." Chindao: "Chikwari." (Both names being derived from the bird's call.)

Rh., P. This is one of our earliest birds to call in the morning, isolated notes being not infrequently heard an hour or more before dawn. I have found it common at Maruma, at Brent's on the Lusitu, and on the Haroni River, all in September, and, in the lowlands, I noted it at Inyajena and on the Mwangezi. In 'The Ibis' for 1907, p. 309, it was erroneously referred to *Pternistes nudicollis*.

The "Inkwali" is looked on by the natives as an exceedingly selfish bird, and they have a common proverb "Aik' inkwali epandel' enye" (no "Pheasant" scratches for another—"every man for himself").

260. *COTURNIX DELAGORGUEI*. Harlequin Quail.

Singuni: "Sigwaqa" (Zulu "q"-click).

Rh., P. This Quail is fairly plentiful with us during the winter, and is trapped in great numbers by the natives in the Umgoza-crop (*Eleusine*), which is invaded by it when ripening in May and June. I have a note to the effect that it was particularly common in the neighbourhood of Chirinda throughout July 1906 and again from the 9th to the 13th of September. Two females in my collection measured 6.9 inches in the flesh and a third 7.1 inches. In the female the upper mandible is light horn-coloured, the lower pale bluish, the feet are pinkish white, and the irides deep ochreous.

261. *EXCALFACTORIA ADANSONI*. Blue Quail.

Rh., P. Early in January 1906 I not infrequently flushed these Quails singly or in pairs in swampy "vleis" of comparatively short grass on the lower Zona, securing a female on the 3rd of that month.

262. NUMIDA MITRATA. East African Guinea-fowl.

Chindao: "Ihanka." Singuni: "Impangela."

Rh., P. These Guinea-fowls are particularly plentiful in old Kafir lands about Chirinda in winter, and I came across large flocks of them in August in the bush on the Kurumadzi, obtaining some very good sport. In the low veld they appeared to be common from the Zinyumbo Hills to the Umtefu, and again about Chibabava in December and January. Some which I reared in my aviary died within a few days of being liberated, when three-quarters grown; they had evidently partaken too freely of a large scarlet bug with which I found their crops crammed. *N. coronata*, to which I had previously referred my specimens, does not appear to occur with us, even Mashonaland (Mazoë) specimens being undoubtedly referable to *N. mirata*. Apart from the differences in the horn and wattles, the fine barring of the feathers of the lower neck appears to be quite a useful character in distinguishing the present species from *N. coronata*, in which the spotting is carried up practically to the bare skin. This is also the case in young birds of *N. mirata*, but in these the highest feathers are white with black edgings, producing a conspicuous longitudinally-stripped appearance. An adult bird in my collection measured 23.5 inches. The horn is usually ochreous brown, becoming bright red at the base, as are also the tips of the gape-wattles and the base of the bill, the tip of which is greenish grey. The neck is pale greenish blue, becoming dusky cobalt in front. A broad dusky stripe with irregular margins runs down the back of the neck.

263. GUTTERA EDOUARDI. Crested Guinea-fowl.

Chindao: "Ndhori" or "Ihangatori."

Rh., P. I noted these birds several times in the dense bush on the Kurumadzi during August 1906, though they were then by no means so common there as *Numida mitrata*. In Chirinda I heard them calling throughout the afternoon of November 3rd; but they appear to visit this forest very rarely. Their call is quite distinctive, far more like Aristophanes' βρεκεκεκεξ than that of any frog I have

yet heard, but with the *κοῦξ* (or rather "tyo-tyok ") first, the full call being roughly as follows :—

Tyotyok, tyotyok, tyotyok, tyotyok !

Tyotyok, brekekekeh !

Tyotyok, brekekekeh !

Tyotyok, brekekekeh ! Kerrrr !

I had for some time in my aviary one of these birds which was brought to me by a native from the Jihu. It was very tame from the first, allowing an approach to within a couple of feet of it without a sign of alarm. It fed freely on mealies, *Eleusine*, and other grains. At night when going to roost it became very suspicious and hard to please in its choice of a perch. On landing on a branch it would crane its neck in all directions to ascertain if there was any danger near, then face round the other way and repeat the operation; then, still suspicious, it would fly off to another perch and again investigate. Finally, after trying numbers of perches, its suspicions lulled doubtless more by sleepiness than anything else, it would settle down on its haunches for the night. One of my specimens measured 21 inches in the flesh. Its tarsi were light blue-grey, and its toes dusky. The bill was very pale green-grey, semi-translucent, with a deeper blue-grey base, the point of the culmen brownish. The bare skin of the neck and head were blackish tinged with blue, excepting for the fold of skin and a spot in front of the ear, which were ochreous whitish. The irides were bright carmine.

264. *TURNIX LEPURANA*. Kurrichane Hemipode.

Rh. Like the Harlequin Quail, these Hemipodes appear to be particularly plentiful and destructive at the time of the ripening of the native *Eleusine*-crop in May and June, and are then trapped in some numbers by means of snares. Two of my specimens measured respectively 5·7 and 5·9 inches in the flesh. The feet are pale greyish or brownish white.

265. *LIMNOCORAX NIGER*. Black Crake.

P. I found this Crake in some numbers in December

1906 amongst the sedge in the pools near Chibabava, which I have already had frequent occasion to mention.

266. *BALEARICA REGULORUM*. Crowned Crane.

Rh. About a year ago one of these handsome Cranes was brought to me alive from the Sabi by a native, but unfortunately—for they make excellent pets—it had been too maltreated to survive. This species is stated to be numerous on the Sabi.

267. *ŒDICNEMUS CAPENSIS*. Dikkop.

P. I noted one of these birds in December near the mouth of the Buzi. In a specimen which I obtained in Mashonaland in June 1893 the bill was black with a yellow base, the feet were gamboge, changing to olive-green on the front of the tarsus and the upper surface of the toes, and the irides gamboge. I used to meet with them occasionally in the open "vleis" about Salisbury and usually found them very confiding and easy of approach.

I have a note to the effect that the Chizwina (Mashona) name is "Kanyúrura-howe."

268. *CURSORIUS TEMMINCKI*. Temminck's Courser.

Rh. Odendaal has recently sent me a specimen of this Courser, a female, obtained by him near Chirinda on May 28th, 1907. It measured 8 inches in the flesh. Bill, upper mandible and point of lower blackish, rest of lower pale creamy white. Irides dark sepia; feet dirty white, darker on toes.

269. *RHINOPTILUS CHALCOPTERUS*. Bronze-wing Courser.

P. I shot one of these Coursers, an immature bird in the plumage of *R. albofasciatus*, on Nov. 26th, 1906, in the flats near Chimbuya. It was a solitary individual and rose at our approach, but settled again at once and ran. The bill was blackish, the gape and the base of the lower mandible salmon-pink. The eyelids were the same but tinged slightly with orange, and the shanks were salmon, tinged with grey on the tarsi and especially the toes. The irides were dark brown.

270. *ACTOPHILUS AFRICANUS*. African Jacana.

Singuni: "Inkukumezara."

Rh., P. I found these birds plentiful on the pools near Chibabava during December, as well as occasionally along the margins of the river. They were mostly in pairs, running about over the old down-flattened sedge. They are not easily flushed and, when on the wing, their flight, consisting of a rapid flapping of the wings, is short (the longest I saw was of nine birds together over a distance of eighty or ninety yards), but by no means weak. So far from flying with their legs dangling, as I have seen described, they hold them stiffly out behind in making these somewhat prolonged flights; the neck is curved back, with the head resting down between the shoulders. In the rushes they make quite a variety of loud noises, the commonest being a "kroo"-ing noise, which often alternates with or is uttered at the same time as a clearer and pleasanter note—evidently by way of a duet, as in the case of *Dryoscopus guttatus*. A male in my collection measured 10·15 inches in the flesh and two females 11·3 and 11·8 inches respectively. In all the frontal shield and bill were pale blue, the point of the bill paler—a dirtier blue; the feet were light slaty grey, the toes slightly paler, and the irides deep brown. The stomachs contained beetles, fragments of aquatic molluscs, a seed, and in each case a quantity of quartz-grit.

271. *LOBIVANELLUS LATERALIS*. Wattled Plover.

Rh., P. I obtained specimens of this, the common Plover of our highlands, in the low veld on the Umtefu River on January 8th, 1907, noting it again between that river and Chimbuya. It is an easy bird to shoot, the survivors each time merely circling round and round, or settling again close by, and seldom attempting to clear off. The stomach of one of my specimens contained weevils and other beetles, and of another, a large larva, beetles, and, apparently, the remains of a frog.

272. *ROSTRATULA CAPENSIS*. Painted Snipe.

P. On December 11th, 1906, I secured a male at some

large pools between Chibabava and Mangunde. It was one of a pair which were frequenting the mud of a shady tunnel formed by the meeting of the tall sedge with the dense overhanging foliage of the trees. It measured 10·4 inches in the flesh; its bill was dark brown, its feet were light brown, and its irides umber. The stomach contained a large number of small delicate bivalves.

A D D E N D A.

The following species, most of which were fully mentioned in my previous paper, should be added to the present list:—

52 *a.* ANTHUS PYRRHONOTUS. Cinnamon-backed Pipit.

Rh. Odendaal obtained a specimen of this bird near Chirinda on July 31st, 1907. Both in coloration and in the length of the hind claw this specimen agrees perfectly with the specimens of *A. gouldi* (Shelley, B. A. ii. p. 308) in the British Museum.

64 *a.* MELOCICHLA ORIENTALIS Sharpe.

Rh. Odendaal obtained a specimen of this Warbler, which is new to South Africa, near Chirinda on August 7th, 1907. It agrees with all the Nyasaland specimens in the British Museum, but differs from the type (obtained by Kirk on the Pangani River) in its slightly larger size: wing 3·1 inches, tail 3·5.

67 *a.* ZOSTEROPS VIRENS. Green White-eye.

Rh. A White-eye obtained by me on September 23th, 1906, at 7000 feet in the Chimanimani Mountains proves to belong to this species. It was searching the tender red foliage of a large *Brachystegia* in company with a small party of *Estrilda kilimensis*.

69 *a.* UROLESTES MELANOLEUCUS. Long-tailed Shrike.

Rh. (Ibis, 1907, p. 45.)

122 *a.* COSSYPHA CAFFRA. Cape Robin-Chat.

Rh. (Ibis, 1907, p. 66.)

131 *a.* NYLIOTA AUSTRALIS. Mashonaland Flycatcher.

Rh. (Ibis, 1907, p. 67.)

157 *a.* CAPRIMULGUS EUROPEUS. European Nightjar.

Rh. A male of this species, measuring 11·5 inches in the flesh, was obtained by Odendaal near Chirinda on Jan. 16th, 1908.

- 178 *a.* HALCYON CHELICUTI. Striped Kingfisher.
Rh. (Ibis, 1907, p. 284.)
- 178 *b.* HALCYON CYANOLEUCUS. Angola Kingfisher.
P. (Ibis, 1907, p. 284.)
- 199 *a.* CHRYSOCOCCYX KLAASI. Klaas's Cuckoo.
P. (Ibis, 1907, p. 291.)
- 201 *a.* COCCYSTES JACOBINUS. Jacobin Cuckoo.
Rh. One of my specimens, obtained near Chirinda on February 6th,
1906, appears to be typical *C. jacobinus*.
- 217 *a.* FALCO BIARMICUS. South African Lanner.
Rh. (Ibis, 1907, p. 300.)
- 220 *a.* BAZA VERREAUXI. Cuckoo Falcon.
Rh., P. (Ibis, 1907, p. 300.)
- 226 *a.* CIRCAËTUS PECTORALIS. Black-breasted Harrier-Eagle.
Rh., P. (Ibis, 1907, p. 301.)
- 232 *a.* ASTUR POLYZONOIDES. Little Banded Goshawk.
Rh. (Ibis, 1907, p. 303.)
- 232 *b.* CIRCUS MACRURUS. Pale Harrier.
Rh. (Ibis, 1907, p. 303.)
- 232 *c.* GYPS KOLBII. Kolbe's Vulture.
P. (Ibis, 1907, p. 304.)
- 232 *d.* SERPENTARIUS SECRETARIUS. Secretary-Bird.
Rh. (Ibis, 1907, p. 304.)
- 235 *a.* CICONIA ALBA. White Stork.
Rh. (Ibis, 1907, p. 304.)
- 235 *b.* LEPTOPTILUS CRUMENIFERUS. Marabou.
Rh. (Ibis, 1907, p. 305.)
- 249 *a.* PÆCILONETTA ERYTHRORHYNCA. Red-bill.
Rh. (Ibis, 1907, p. 305.)
- 253 *a.* CENA CAPENSIS. Namaqua Dove.
P. (Ibis, 1907, p. 307.)
- 256 *a.* FRANCOLINUS COQUI. Coqui Francolin.
Rh. (Ibis, 1907, p. 309.)
- 265 *a.* GALLINULA CHLOROPUS. Moor-Hen.
P. (Ibis, 1907, p. 310.)
- 266 *a.* OTIS MELANOGASTER. Black-bellied Knorhaan.
Rh., P. (Ibis, 1907, p. 310.)



H. J. ...

P. ...

FIGURES OF EGGS OF
SOUTH AFRICAN PASSERINE BIRDS

271 *a.* TOTANUS GLAREOLA. Wood-Sandpiper.

Rh. (Ibis, 1907, p. 311.)

272 *a.* STRUTHIO AUSTRALIS. Southern Ostrich.

P. (Ibis, 1907, p. 311.)

EXPLANATION OF PLATE VIII.

Figures of Eggs of South African Passerine Birds.

Fig. 1. *Nectarinia arturi*, p. 32.

2 & 3. *Cinnyris olivacina**,
p. 41.

4. *Serinus sharpii*, p. 26.

5. *Sitagra ocellaria*, p. 14.

6, 7, & 8. *Dryoscopus guttatus*,
p. 53.

9. *Laniarius quadricolor*,
p. 56.

10 & 11. *Batis erythrophthalma*,
p. 93.

12. *Laniarius sturki*, p. 60.

13. *Terpsiphone plumbeiceps*,
p. 98.

Fig. 14. *Smithornis capensis*, p. 90.

15 & 16. *Cossypha natalensis*,
p. 83.

17. *Phyllostrophus milanjensis*,
p. 71.

18. *Cossypha henglini*, p. 84.

19. *Chlorocichla occidentalis*,
p. 67.

20. *Phyllostrophus capensis*,
p. 68.

21. *Phyllostrophus flavistriatus*,
p. 69.

22 & 23. *Erithacus swynner-
toni*, p. 88.

XV.—*The Winter Birds of Colorado.*

By W. L. SCLATER, M.B.O.U. (Colorado Springs).

It has occurred to me that a few notes on the winter birds of Colorado might be of interest to my fellow-members of the B.O.U., especially as little appears in 'The Ibis' on the subject of North-American birds. This is probably due to the fact that there are so many excellent ornithological journals in the States that anything of really novel interest is sure to be published in them. I do not claim for one moment that there is anything original in what I have to

* This Sun-bird, previously identified as *C. olivaceus* (above, p. 41), proves on further examination to differ noticeably from typical specimens of that species in the British Museum, all my specimens being intermediate in coloration and measurements between it and *C. obscurus* of the West Coast. Dr. Reichenow, whom I have consulted, considers it to be undoubtedly referable to *C. olivacina* Peters.